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EXAMINER

TORRES, JUAN A

ART UNIT

PAPER NUMBER

2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/961,113

Applicant(s)

OVARD ET AL.

Examiner

Juan A. Torres

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12-04-06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The modifications to the drawings were received on 12/04/2006. These modifications are accepted by the Examiner.

In view of the amendment filed on 12/04/2006, the Examiner withdraws drawings objections of the previous Office action.

Specification

The modifications to the specification were received on 12/04/2006. These modifications are accepted by the Examiner.

In view of the amendment filed on 12/04/2006, the Examiner withdraws Specification objections of the previous Office action.

Claim Objections

Claim 51 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 48 is modulating the signal in phase by invert some of the chips, for this reason claim 51 doesn't add any new limitation to claim 48.

Claim 57 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 56 is modulating the

signal in phase by invert some of the chips, for this reason claim 57 doesn't add any new limitation to claim 56.

Claim 61 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 60 is modulating the signal in phase and amplitude using three different levels, for this reason claim 61 doesn't add any new limitation to claim 60.

Claim 62 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 60 is modulating the signal in phase by inverting portions of the spread data, for this reason claim 62 doesn't add any new limitation to claim 60.

Claim 79 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 77 is modulating the signal in phase by inverting portions of the spread data, for this reason claim 79 doesn't add any new limitation to claim 77.

Claim Rejections - 35 USC § 112

The modifications to the claims were received on 12/04/2006. These modifications are accepted by the Examiner.

In view of the amendment filed on 12/04/2006, the Examiner withdraws claims rejections under 35 USC § 112 first paragraph to claim 29 of the previous Office action.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 48-52 and 56-64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 48-52, 56-59 and 60-64 are rejected because they are single means claims. A single means claim does not comply with the enablement requirement of 35 U.S.C. 112, first paragraph (See also MPEP § 2164.08(a)). A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited

property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

Allowable Subject Matter

The modifications to the claims were received on 12/04/2006. These modifications are accepted by the Examiner.

In view of the amendment filed on 12/04/2006, the Examiner withdraws allowable subject of matter to claim 29 of the previous Office action.

Double Patenting

The modifications to the claims were received on 12/04/2006. These modifications are accepted by the Examiner.

In view of the amendment filed on 12/04/2006, the Examiner withdraws double patenting rejections to claims 1-28 and 30-47 of the previous Office action.

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 69, 70, 71, 81 and 82 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 40, 41, 42, 26 and 26 respectively of prior U.S. Patent No. 6459726 B1. This is a double patenting rejection.

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 48, 49, 50, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 77, 78, 79 and 80 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 6, 1, 5, 1, 6, 1, 1, 5, 6, 2, 2, 2, 5, 6, 12, 35, 35, 38, 35, 35, 35 and 37 respectively of U.S. Patent No. 6459726 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

As per claim 48, claim 48 discloses modulating a spread spectrum signal in phase by inverting portions of the spread data, claim 1 discloses modulating a spread spectrum signal in phase and amplitude, so claim 48 is broader than claim 1. Claim 48 is obvious over claim 1 because uses less limitations, because the data path, the signal generator and the modulation in amplitude are not used.

As per claim 49, claim 49 discloses further modulating the spread spectrum signal in amplitude with three levels, claim 2 discloses modulating a spread spectrum signal in phase and amplitude with three levels, so claim 49 is broader than claim 2. Claim 49 is obvious over claim 2 because uses less limitations, because the data path and the signal generator are not used.

As per claim 50, claim 50 discloses further filtering the spread spectrum signal, claim 6 discloses filtering the spread spectrum signal, so claim 50 is broader than claim 6. Claim 50 is obvious over claim 6 because uses less limitations, because the data path and the signal generator are not used.

As per claim 51, claim 51 discloses modulating the spread spectrum signal in phase, this limitation was already claimed in claim 48, claim 1 discloses modulating the spread spectrum signal in phase, so claim 51 is broader than claim 1. Claim 51 is obvious over claim 1 because uses less limitations, because the data path and the signal generator are not used.

As per claim 52, claim 52 discloses modulating phase of the spread spectrum signal in response to a predetermined value, claim 5 discloses modulating phase of the spread spectrum signal in response to a predetermined value, so claim 52 is broader than claim 5. Claim 52 is obvious over claim 5 because uses less limitations, because the data path and the signal generator are not used.

As per claim 53, claim 53 discloses modulating a spread spectrum signal in phase and amplitude, claim 1 discloses a data path, a signal generator and modulating a spread spectrum signal in phase and amplitude, so claim 53 is broader than claim 1.

Claim 53 is obvious over claim 1 because uses less limitations, because the data path and the signal generator are not used.

As per claim 54, claim 54 discloses further filtering the spread spectrum signal, claim 6 discloses filtering the spread spectrum signal, so claim 54 is broader than claim 6. Claim 54 is obvious over claim 6 because uses less limitations, because the data path and the signal generator are not used.

As per claim 56, claim 56 discloses modulating a spread spectrum signal in phase by inverting portions of the spread data, claim 1 discloses modulating a spread spectrum signal in phase and amplitude, so claim 56 is broader than claim 1. Claim 56 is obvious over claim 1 because uses less limitations, because the data path, the signal generator and the modulation in amplitude are not used.

As per claim 57, claim 57 discloses modulating the spread spectrum signal in phase, this limitation was already claimed in claim 56, claim 1 discloses modulating the spread spectrum signal in phase, so claim 57 is broader than claim 1. Claim 57 is obvious over claim 1 because uses less limitations, because the data path and the signal generator are not used.

As per claim 58, claim 58 discloses modulating phase of the spread spectrum signal in response to a predetermined value, claim 5 discloses modulating phase of the spread spectrum signal in response to a predetermined value, so claim 58 is broader than claim 5. Claim 58 is obvious over claim 5 because uses less limitations, because the data path and the signal generator are not used.

As per claim 59, claim 59 discloses further filtering the spread spectrum signal, claim 6 discloses filtering the spread spectrum signal, so claim 59 is broader than claim 6. Claim 59 is obvious over claim 6 because uses less limitations, because the data path and the signal generator are not used.

As per claim 60, claim 60 discloses modulating a spread spectrum signal in amplitude and in phase by inverting portions of the spread data using three different levels, claim 2 discloses modulating a spread spectrum signal in phase and amplitude using three different levels, so claim 60 is broader than claim 2. Claim 60 is obvious over claim 2 because uses less limitations, because the data path and the signal generator are not used.

As per claim 61, claim 61 discloses modulating a spread spectrum signal in amplitude and in phase by inverting portions of the spread data using three different levels, claim 2 discloses modulating a spread spectrum signal in phase and amplitude using three different levels, so claim 61 is broader than claim 2. Claim 61 is obvious over claim 2 because uses less limitations, because the data path and the signal generator are not used.

As per claim 62, claim 62 discloses modulating a spread spectrum signal in phase by inverting portions of the spread data, claim 2 discloses modulating a spread spectrum signal in phase, so claim 62 is broader than claim 2. Claim 62 is obvious over claim 2 because uses less limitations, because the data path and the signal generator are not used.

As per claim 63, claim 63 discloses modulating phase of the spread spectrum signal in response to a predetermined value, claim 5 discloses modulating phase of the spread spectrum signal in response to a predetermined value, so claim 63 is broader than claim 5. Claim 63 is obvious over claim 5 because uses less limitations, because the data path and the signal generator are not used.

As per claim 64, claim 64 discloses further filtering the spread spectrum signal, claim 6 discloses filtering the spread spectrum signal, so claim 64 is broader than claim 6. Claim 64 is obvious over claim 6 because uses less limitations, because the data path and the signal generator are not used.

As per claim 65, claim 65 discloses an interrogator using a spread spectrum signal and a device that receive and process the data, claim 12 discloses an interrogator using a spread spectrum signal modulated in amplitude and phase and a device that receive and process the data, so claim 65 is broader than claim 12. Claim 65 is obvious over claim 12 because uses less limitations, because the amplitude and phase modulation of the spread spectrum signal is not used.

As per claim 66, claim 66 is obvious over claim 35 because claim 66 claims less limitations, because the filtering, the amplitude and phase modulation of the signal is not claimed, so claim 66 is broader than claim 35.

As per claim 67, claim 67 is obvious over claim 35 because claim 66 claims fewer limitations, the amplitude and phase modulation of the signal is not claimed, so claim 66 is broader than claim 35.

As per claim 68, claim 68 is obvious over claim 38 because claim 68 claims fewer limitations, because the filtering, the amplitude and phase modulation of the signal are not claimed, so claim 68 is broader than claim 38.

As per claim 77, claim 77 is obvious over claim 35 because claim 77 claims fewer limitations, because the providing, inverting and filtering are not claimed, so claim 77 is broader than claim 35.

As per claim 78, claim 78 is obvious over claim 35 because claim 78 claims fewer limitations, because the providing and inverting are not claimed, so claim 78 is broader than claim 35.

As per claim 79, claim 79 is obvious over claim 35 because claim 79 claims fewer limitations, because the providing, inverting and filtering are not claimed, so claim 79 is broader than claim 35.

As per claim 80, claim 80 is obvious over claim 37 because claim 80 claims fewer limitations, because the providing, inverting and filtering are not claimed, so claim 80 is broader than claim 37.

Claims 55, 72, 73, 74, 75 and 76 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 35, 35, 35, 35 and 37 of U.S. Patent No. 6459726 B1, in view of Applicant Admitted Prior Art (AAPA).

As per claim 55, claim 1 discloses claim 53, claim 1 doesn't disclose a DSSS. AAPA discloses DSSS. Claim 1 and AAPA are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to

incorporate in the system disclosed by claim 35 the DSSS technique disclosed by AAPA. The suggestion/motivation for doing so would have been to use spread spectrum modulation techniques known in the art that meets FCC (column 2 lines 2-21).

As per claim 72, claim 35 discloses claim 72, claim 35 doesn't disclose a DSSS. AAPA discloses DSSS. Claim 35 and AAPA are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by claim 35 the DSSS technique disclosed by AAPA. The suggestion/motivation for doing so would have been to use spread spectrum modulation techniques known in the art that meets FCC (column 2 lines 2-21).

As per claim 73, claim 35 discloses claim 73, claim 35 doesn't disclose a DSSS. AAPA discloses DSSS. Claim 35 and AAPA are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by claim 35 the DSSS technique disclosed by AAPA. The suggestion/motivation for doing so would have been to use spread spectrum modulation techniques known in the art that meets FCC (column 2 lines 2-21).

As per claim 74, claim 35 discloses claim 74, claim 35 doesn't disclose a DSSS. AAPA discloses DSSS. Claim 35 and AAPA are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by claim 35 the DSSS technique disclosed by

AAPA. The suggestion/motivation for doing so would have been to use spread spectrum modulation techniques known in the art that meets FCC (column 2 lines 2-21).

As per claim 75, claim 35 discloses claim 75, claim 35 doesn't disclose a DSSS. AAPA discloses DSSS. Claim 35 and AAPA are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by claim 35 the DSSS technique disclosed by AAPA. The suggestion/motivation for doing so would have been to use spread spectrum modulation techniques known in the art that meets FCC (column 2 lines 2-21).

As per claim 76, claim 37 discloses claim 76, claim 37 doesn't disclose a DSSS. AAPA discloses DSSS. Claim 37 and AAPA are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by claim 37 the DSSS technique disclosed by AAPA. The suggestion/motivation for doing so would have been to use spread spectrum modulation techniques known in the art that meets FCC (column 2 lines 2-21).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 69-71 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 69-71 are rejected because they claim an abstract idea or calculation that is directed to an algorithm for modulating a carrier that consists solely of the manipulation of abstract ideas that don't produce any practical application that produces a useful, concrete and tangible result, that is not statutory subject of matter. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir.1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459. Claims 28-36 don't produce any practical application that produces a useful, concrete and tangible result *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02 (emphasis added).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 48, 51-52, 56-58, 66 and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugita (US 5862172 A).

As per claim 48, Sugita discloses circuitry configured to receive a data signal, to provide the data signal comprising a plurality of chips, to invert at least some of the chips, and to modulate a carrier signal using the data signal after the inversion of at least some chips and prior to communication of the carrier signal (figure 9 column 10 lines 38-55).

As per claim 51, Sugita discloses claim 48, Sugita also discloses phase modulate the carrier signal responsive to the inversion (figure 9 block 51 column 10 lines 38-55. Because the inversion is in all the chips the phase modulation is 180 degrees).

As per claim 52, Sugita discloses claim 48, Sugita also discloses that the circuitry is configured to invert at least some of the chips responsive to the data signal comprising a predetermined value (figure 9 block 26 column 5 lines 21-33).

As per claim 56, Sugita discloses circuitry configured to modulate a carrier signal using a data signal, the modulator being further configured to spread the data signal providing a spread data signal and to invert portions of the spread data signal prior to modulating the carrier signal (figure 9 column 10 lines 38-55).

As per claim 57, Sugita discloses claim 56, Sugita also discloses phase modulate the carrier signal responsive to the inversion of portions of the spread data signal (figure 9 block 51 column 10 lines 38-55. Because the inversion is in all the chips the phase modulation is 180 degrees).

As per claim 58, Sugita discloses claim 56, Sugita also discloses that the circuitry is configured to invert at least some of the chips responsive to the data signal comprising a predetermined value (figure 9 block 26 column 5 lines 21-33).

As per claim 66, Sugita discloses providing a data signal (figure 14A block 73, column 13 lines 13-24); first modifying the data signal using a first code signal (figure 14A block 76, column 13 lines 13-24); second modifying the data signal using a second code signal different than the first code signal after the first modifying (figure 14A block 77, column 13 lines 13-24); modulating a carrier signal using the data signal after the

first modifying and the second modifying (figure 14A block 79, column 13 lines 25-32); and communicating the carrier signal after the modulating (figure 14A block 80, column 13 lines 25-32).

As per claim 68, Sugita discloses claim 66, Sugita also discloses that the first code signal and the second code signal comprising different pseudo-noise sequences (figure 14A block 80, column 13 lines 25-32).

Claim 65 is rejected under 35 U.S.C. 102(b) as being anticipated by MacLellan (US 5649296 A). As per claim 65, MacLellan discloses an interrogator configured to externally communicate data of a data signal using a carrier signal having a frequency and to modify the data signal prior to the external communication of the data to suppress the power of the external communication of the data at the frequency of the carrier signal (figure 1 block 103; column 3 lines 25-44); and a radio frequency identification device configured to receive the data and to process the data (figure 1 block 105; column 3 lines 25-44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita as applied to claim 48 above, and further in view of Ogino (US 6356705 B1). As per claim 49, Sugita discloses claim 48, Sugita doesn't disclose provide the data signal

having three states after the inversion and prior to the modulation. Ogino discloses provide the data signal having three states after the inversion and prior to the modulation (figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

Claims 50, 59 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita as applied to claims 48 and 56 above, and further in view of MacLellan (US 5649296 A).

As per claim 50, Sugita discloses claim 48, Sugita doesn't disclose a filter coupled with the circuitry and configured to band filter the data signal prior to the modulation of the carrier signal. MacLellan discloses the use of a filter coupled with the circuitry and configured to band filter the data signal (figure 3 BPF column 3 lines 45-62). Sugita and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the filtering technique disclosed by MacLellan to band filter the data signal prior to the modulation of the carrier signal. The suggestion/motivation for doing so would have been to filters out signals outside of the interested range (MacLellan column 4 lines 34-51).

As per claim 59, Sugita discloses claim 56, Sugita doesn't disclose a filter coupled with the circuitry and configured to band filter the data signal prior to the modulation of the carrier signal. MacLellan discloses the use of a filter coupled with the circuitry and configured to band filter the data signal (figure 3 BPF column 3 lines 45-62). Sugita and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the filtering technique disclosed by MacLellan to band filter the data signal prior to the modulation of the carrier signal. The suggestion/motivation for doing so would have been to filter out signals outside of the interested range (MacLellan column 4 lines 34-51).

As per claim 67, Sugita discloses claim 66, Sugita doesn't disclose a filter coupled with the circuitry and configured to band filter the data signal prior to the modulation of the carrier signal. MacLellan discloses the use of a filter coupled with the circuitry and configured to band filter the data signal (figure 3 BPF column 3 lines 45-62). Sugita and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the filtering technique disclosed by MacLellan to band filter the data signal prior to the modulation of the carrier signal. The suggestion/motivation for doing so would have been to filter out signals outside of the interested range (MacLellan column 4 lines 34-51).

Claims 53, 60-63, 69-70, 77 and 79-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita (US 5862172 A) in view of Ogino (US 6356705 B1).

As per claim 53, Sugita discloses circuitry configured to receive a data signal and to spread the data signal providing a spread data signal (figure 14A block 74, column 13 lines 13-24); and a mixer coupled with the circuitry, and wherein the mixer is configured to receive the spread data signal and to phase modulate a carrier signal using the spread data signal prior to communication of the carrier signal using the transmitter (figure 9 column 10 lines 38-55). Sugita doesn't disclose to amplitude modulate a carrier signal. Ogino discloses to amplitude modulate a carrier signal (figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

As per claim 60, Sugita discloses circuitry configured to spread a data signal providing a spread data signal having two different states, to invert portions of the spread data signal to provide the spread data signal (figure 9 column 10 lines 38-55). Sugita doesn't disclose that the spread data signal having three different states, and to modulate the carrier signal using the spread data signal having the three different states. Ogino discloses that the spread data signal having three different states, and to modulate the carrier signal using the spread data signal having the three different states

(figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

As per claim 61, Sugita and Ogino disclose claim 60, Sugita also discloses to phase modulate the carrier signal (figure 9 column 10 lines 38-55. Because the inversion is in all the chips the phase modulation is 180 degrees). Ogino also discloses to amplitude modulate the carrier signal using the spread data signal having the three different states (figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

As per claim 62, Sugita and Ogino disclose claim 60, Sugita also discloses phase modulate the carrier signal responsive to the inversion of portions of the spread data signal (figure 9 block 51 column 10 lines 38-55. Because the inversion is in all the chips the phase modulation is 180 degrees).

As per claim 63, Sugita and Ogino disclose claim 60, Sugita also discloses that the circuitry is configured to invert at least some of the chips responsive to the data signal comprising a predetermined value (figure 9 block 26 column 5 lines 21-33).

As per claim 69, Sugita discloses providing a digital data signal (figure 14A block 73, column 13 lines 13-24); providing a carrier signal (figure 14A block 74, column 13 lines 13-24); and modulating the carrier signal using the data signal (figure 14A block 79, column 13 lines 13-24), Sugita doesn't disclose converting the digital data signal to a data signal having three different states. Ogino discloses converting the digital data signal to a data signal having three different states (figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

As per claim 70, Sugita and Ogino disclose claim 69, Sugita also discloses spreading the digital data signal before the converting (figure 14A block 76, column 13 lines 13-24).

As per claim 77, Sugita discloses spreading a data signal comprising data to be communicated and providing a spread data signal (figure 14A block 76, column 13 lines 13-24); and communicating the data externally of a transmitter using a carrier signal after the spreading (figure 14A block 80, column 13 lines 25-32), the communicating

comprising phase modulating the carrier signal using the spread data signal (figure 14A block 79, column 13 lines 25-32). Sugita doesn't disclose amplitude modulate the carrier signal. Ogino discloses to amplitude modulate the carrier signal (figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

As per claim 79, Sugita and MacLellan disclose claim 77, Sugita also discloses inverting at least portions of the spread data signal after the spreading to implement the phase modulating (figure 9 block 51 column 10 lines 38-55. Because the inversion is in all the chips the phase modulation is 180 degrees).

As per claim 80, Sugita and MacLellan disclose claim 79, Sugita also discloses inverting responsive to the spread data signal comprising a predetermined digital value (figure 9 block 26 column 5 lines 21-33).

As per claim 81, Sugita discloses providing a data signal (figure 14A block 73, column 13 lines 13-24); providing a carrier signal (figure 14A block 80, column 13 lines 25-32); spreading the data signal to define a spread data signal (figure 14A block 76, column 13 lines 13-24); modulating the carrier signal using the spread data signal to suppress the carrier signal during communication of the carrier signal (figure 14A block 79, column 13 lines 25-32); and communicating the modulated carrier signal (figure 14A

block 80, column 13 lines 25-32). Sugita doesn't disclose amplitude modulate the carrier signal. Ogino discloses to amplitude modulate the carrier signal (figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

As per claim 82, Sugita discloses providing a data signal (figure 14A block 73, column 13 lines 13-24); providing a carrier signal (figure 14A block 80, column 13 lines 25-32); spreading the data signal to define a spread data signal (figure 14A block 76, column 13 lines 13-24); modulating the carrier signal using the spread data signal (figure 14A block 79, column 13 lines 25-32); and communicating the modulated carrier signal (figure 14A block 80, column 13 lines 25-32). Sugita doesn't disclose suppressing the carrier signal during the communicating where the suppressing comprises suppressing an amplitude modulated carrier signal amplitude modulate the carrier signal. Ogino discloses suppressing the carrier signal during the communicating where the suppressing comprises suppressing an amplitude modulated carrier signal amplitude modulate the carrier signal (figure 4D column 9 line 66 to column 10 line 45). Sugita and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by

Sugita the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

Claims 54, 55, 64, 71 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita and Ogino as applied to claims 53, 60, 69 and 77 above, and further in view of MacLellan (US 5649296 A).

As per claim 54, Sugita and Ogino disclose claim 53, Sugita and Ogino don't disclose a filter coupled with the circuitry and the mixer, and wherein the filter is configured to band filter the spread data signal prior to application of the spread data signal to the mixer. MacLellan discloses the use of a filter coupled with the circuitry and the mixer, and wherein the filter is configured to band filter the spread data signal (figure 3 BPF column 3 lines 45-62). Sugita, Ogino and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita and Ogino the filtering technique disclosed by MacLellan to band filter the data signal prior to application of the spread data signal to the mixer. The suggestion/motivation for doing so would have been to filters out signals outside of the interested range (MacLellan column 4 lines 34-51).

As per claim 55, Sugita and Ogino disclose claim 53, Sugita and Ogino don't disclose to spread the data signal using direct sequence spread spectrum spreading. MacLellan discloses to spread the data signal using direct sequence spread spectrum spreading (figure 3 column 3 lines 45-62). Sugita, Ogino and MacLellan are analogous

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art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita and Ogino the DSSS technique disclosed by MacLellan. The suggestion/motivation for doing so would have been to reduce the received signal bandwidth (MacLellan column 3 lines 45-62).

As per claim 64, Sugita and Ogino disclose claim 60, Sugita and Ogino don't disclose band filter the spread data signal prior to the modulation of the carrier signal. MacLellan discloses band filter the spread data signal prior to the modulation of the carrier signal (figure 3 BPF column 3 lines 45-62). Sugita, Ogino and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita and Ogino the filtering technique disclosed by MacLellan to band filter the data signal prior to modulation. The suggestion/motivation for doing so would have been to filters out signals outside of the interested range (MacLellan column 4 lines 34-51).

As per claim 71, Sugita and Ogino disclose claim 69, Sugita and Ogino don't disclose filtering the data signal prior to modulating. MacLellan discloses filtering the data signal (figure 3 BPF column 3 lines 45-62). Sugita, Ogino and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita and Ogino the filtering technique disclosed by MacLellan to band filter the data signal prior to

modulating. The suggestion/motivation for doing so would have been to filter out signals outside of the interested range (MacLellan column 4 lines 34-51).

As per claim 78, Sugita and Ogino disclose claim 77, Sugita and Ogino don't disclose band limiting the data signal prior to modulating. MacLellan discloses band limiting the data signal (figure 3 BPF column 3 lines 45-62). Sugita, Ogino and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita and Ogino the filtering technique disclosed by MacLellan to band limiting the data signal prior modulating. The suggestion/motivation for doing so would have been to filter out signals outside of the interested range (MacLellan column 4 lines 34-51).

Claims 72 and 74-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita (US 5862172 A) in view of MacLellan (US 5649296 A).

As per claim 72, Sugita discloses providing a data signal (figure 14A block 73, column 13 lines 13-24); spreading the data signal (figure 14A block 76, column 13 lines 13-24); inverting portions of the data signal after the spreading (figure 9 block 51 column 10 lines 38-55. Because the inversion is in all the chips the phase modulation is 180 degrees); modulating a carrier signal using the data signal (figure 14A block 79, column 13 lines 25-32); and communicating the carrier signal after the modulating (figure 14A block 80, column 13 lines 25-32). Sugita doesn't disclose to spread the data signal using direct sequence spread spectrum spreading. MacLellan discloses to spread the data signal using direct sequence spread spectrum spreading (figure 3 column 3

lines 45-62). Sugita and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the DSSS technique disclosed by MacLellan. The suggestion/motivation for doing so would have been to reduce the received signal bandwidth (MacLellan column 3 lines 45-62).

As per claim 74, Sugita and MacLellan disclose claim 72, Sugita also discloses phase modulating the carrier signal responsive to the inverting (figure 9 block 51 column 10 lines 38-55. Because the inversion is in all the chips the phase modulation is 180 degrees).

As per claim 75, Sugita and MacLellan disclose claim 72, MacLellan also discloses band filtering the data signal after the spreading and prior to the modulating (figure 3 BPF column 3 lines 45-62). Sugita and MacLellan are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita the filtering technique disclosed by MacLellan band filtering the data signal after the spreading and prior to the modulating. The suggestion/motivation for doing so would have been to filters out signals outside of the interested range (MacLellan column 4 lines 34-51)

As per claim 76, Sugita and MacLellan disclose claim 72, Sugita also discloses inverting comprises inverting responsive to the data signal comprising a predetermined digital value (figure 9 block 26 column 5 lines 21-33).

Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita and MacLellan as applied to claim 72 above, and further in view of Ogino (US 6356705 B1). As per claim 73, Sugita and MacLellan disclose claim 72, Sugita also discloses phase modulating (figure 14A block 79, column 13 lines 25-32). Sugita and MacLellan don't disclose to amplitude modulate a carrier signal. Ogino discloses to amplitude modulate a carrier signal (figure 4D column 9 line 66 to column 10 line 45). Sugita, MacLellan and Ogino are analogous art because they are from the same field of endeavor of spread spectrum communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate in the system disclosed by Sugita and MacLellan the amplitude modulation technique disclosed by Ogino. The suggestion/motivation for doing so would have been to increase the security of the communication (Ogino column 10 lines 21-25).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Omura (US 5157686 A) discloses modulation and demodulation of spread spectrum radio signals. German (US 4308617 A) discloses coding a transmitted carrier, preferably data modulated, in both amplitude and phase so that the resulting received signal is thermal noiselike in the Gaussian sense with a spread spectrum. Durrant (US 5754584 A) discloses non-coherent spread-spectrum continuous-phase modulation communication systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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01-08-2007

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